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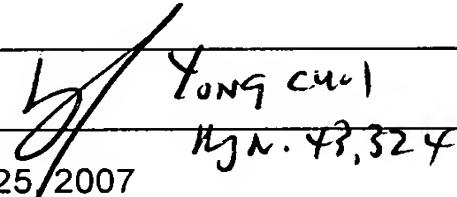
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		Art Unit	3749
		Examiner Name	Stephen Michael Gravini
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ENCLOSURES (Check all that apply)

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SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

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Signature	
Date	July 25, 2007



Docket No.: 9988.071.00
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
DO, Gi Hyeong

Application No.: 10/717,610

Filed: November 21, 2003

For: LAUNDRY DRYER CONTROL METHOD

Customer No.: 30827

Confirmation No.: 8195

Art Unit: 3749

Examiner: Stephen Michael Gravini

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APPELLANT'S REPLY BRIEF

Sir:

In response to the Examiner's Answer (hereinafter "*the Answer*,") dated May 25, 2007, the Appellant hereby submits this Reply Brief including the following additional remarks for the consideration by the Honorable Board.

This brief contains items under the following headings as required by 37 C.F.R. § 41.37(c):

I. Status of Claims

II. Response to Alleged Summary of the Invention Deficiencies

III. Summary of the Invention

IV. Response to Alleged Claims Appendix Deficiencies

V. Grounds of Rejection to be Reviewed on Appeal

VI. Argument

VII. Conclusion

Claims Appendix

Evidence Appendix

Related Proceedings Appendix

I. STATUS OF THE CLAIMS

Total Number of Claims in the Application

There are 13 claims pending in this application.

Current Status of Claims

Claims canceled: Claims 4 and 5.

Claims withdrawn from consideration but not canceled: Claims 9-14.

Claims pending: Claims 1-3, 6-8 and 15.

Claims allowed: None.

Claims rejected: Claims 1-3, 6-8 and 15.

Claims on Appeal: The claims on appeal are claims 1-3, 6-8 and 15.

II. Response to Alleged Brief Deficiencies

In the “Summary of the Claimed Matter” portion of *the Answer*, the Examiner alleges that “the summary of claimed subject matter contained in the brief is deficient.” *See pages 2-3 of the Answer.*

The Examiner alleges that “the brief is deficient because the subject matter explanation does not refer to specification page and line number.” *See page 3, lines 1-2 of the Answer.* The Examiner further alleges that the “appellant has not concisely explained the subject matter defined in the sole independent claim.” Specifically, the Examiner alleges that “the claimed ‘performing the drying procedure for the calculated drying time’ is not concisely explained because it is not specified ‘for the calculated drying time’ in either the figure or specification.” *See page 3, lines 3-9 of the Answer.* Moreover, the Examiner alleges that “Figure 4 more accurately illustrates the concisely explained temperature measurement, instead of appellant’s reference to figure 5.” *See page 3, lines 10-11.*

The Appellant contends that if the Examiner considered any portion of the Appeal Brief to be deficient for any of the aforementioned reasons, the Examiner should have properly addressed this issue by notifying the Appellant of alleged noncompliance in order to give the Appellant an opportunity to address any deficiencies prior to preparing *the Answer*. The Examiner clearly failed to take the proper course of action, as set forth in *M.P.E.P. 1205.03*. Nevertheless, for the convenience of the Board, please find below, a “Summary of the Invention” in compliance with 37 C.F.R. 41.37(c).

In addition, the Examiner alleges that “another deficiency in the [Summary of the Invention portion of the] brief is appellant’s explanation of the “rate of change of the

temperature variation rate (i.e., a change in the change in temperature per unit time) is determined and monitored. FIG 6, S300.” Specifically, the Examiner alleges that the “appellant’s specification paragraph [0027] merely specifies “a change in the temperature variation rate per unit time” beginning at line 12 and continuing through lines 14-18.” *See page 3, lines 12-16 of the Answer.* In other words, it appears as if the Examiner is arguing the interpretation of this claim limitation. This allegation is completely inappropriate.

The reference to the specification included in the Summary of the Invention is to merely show that the claim language is adequately supported by the specification and to enable the Board to more quickly determine where the claimed subject matter is described. The fact that the Appellant and the Examiner disagree regarding the interpretation of this limitation cannot possibly render the Summary of the Invention deficient. Accordingly, the allegation that the Summary of the Invention is deficient for the aforementioned reason must be withdrawn.

V. **SUMMARY OF CLAIMED SUBJECT MATTER**

The following summary of the claimed subject matter includes a description of independent claim 1, the only independent claim involved in this appeal. The claimed invention is directed to a laundry dryer control method. The laundry dryer control method includes the steps of initiating a drying procedure **S100** and performing the drying procedure **S200**. *See, for example, FIG. 6.* Temperature is measured using temperature sensor **240** coupled to a microcomputer **250**. *See, for example, FIG. 4 and paragraph [0025], on page 6, lines 19-24.* A temperature variation rate (*i.e.*, a change in temperature per unit time) is calculated. *See, for example, FIG. 6 and paragraph [0028] on page 8, lines 1-2.* While the drying operation is ongoing, a plurality of temperature variation rates are calculated. *See, for example, FIG. 6 (“no” branch from S300 to S200).* The rate of change of the temperature variation rate (*i.e.*, a change in the change in temperature per unit time) is determined and monitored. *See, for example, FIG. 6, S300.* Once it is determined that there is a substantial increase in the rate of change of the temperature variation rate, the remaining drying time is calculated. *See, for example, FIG. 6 (“yes” branch from S300 to S400); S400.* Once calculated, the drying operation is performed for the calculated remaining dryer time. *See, for example, FIG. 6, S500, paragraph [0027] on page 7, lines 12-15 and paragraph [0029] on page 8, lines 11-13.*

V. RESPONSE TO ALLEGED CLAIMS APPENDIX DEFICIENCIES

In the Claims Appendix portion of *the Answer*, the Examiner alleges that the Appendix of the claims presented in the Appeal Brief contained errors. Specifically, the Examiner alleged that claim 2 should be dependent upon claim 1 instead of claim 5 and claim 6 should depend from claim 2 instead of claim 5. See page 4 of *the Answer*. This allegation is completely unfounded.

The Appellant filed an After Final Amendment on August 9, 2006 which only included amendments to correct the above-identified errors. On August 24, 2006, the Examiner issued an Advisory Action that failed to indicate whether these amendments would be entered. Accordingly, the Appellant's Representative contacted the Examiner in order to determine if these amendments would be entered for purposes of Appeal. On October 18, 2006, the Examiner issued a Supplemental Advisory Action that indicated that these amendments would not be entered because "they raise new issues that would require further consideration and/or search" and "they are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal." Therefore, the claims presented in the Claims Appendix is correct because the Examiner refused to previously enter them. If the Examiner has now changed his mind, the Appellant respectfully requests that the Examiner enter the August 9, 2006 amendment. If not, the Examiner should withdraw the above allegation.

V. GROUNDΣ OF REJECTION TO BE REVIEWED ON APPEAL

(A) Whether the rejection of claims 1-8 and 15 is proper under the judicially created doctrine of obviousness-type double patenting over claims 1-11 of U.S. Patent Number 6,775,923 to *Do*.

(B) Whether the rejection of claims 1-3 and 6-8 is proper under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent Number 4,412,389 to *Krüger* in view of U.S. Patent Number 5,682,684 to *Wentzlaff*.

(C) Whether the rejection of claim 15 is proper under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent Number 4,412,389 to *Krüger* in view of U.S. Patent Number 5,682,684 to *Wentzlaff* in further view of U.S. Patent Number 3,792,956 to *Hyldon*.

VII. ARGUMENTS

A. **Claims 1-3, 6-8 and 15 are patentably distinguishable over claims 1-11 of *Do under the judicially created doctrine of obviousness-type double patenting.***

At the outset, although the Examiner alleges that claims 1-8 and 15 are rejected under obviousness-type double patenting, the Appellant reiterates that claims 4 and 5 were previously cancelled prior to the close of prosecution. Therefore, the rejection of these claim is moot.

In order to reject claims under the judicially created doctrine of obviousness-type double patenting, the allegedly conflicting claims are not required to be identical, but at least one claim in the examined application must be considered not to be patentably distinct from the claims of the reference. Simply, the examined application claims must be considered to be either anticipated by, or obvious over, the reference claims. *MPEP 804.*

For the convenience of the Board, claim 1 of the currently pending application and claim 1 of *Do* are reproduced below.

Claim 1 U.S. Application No. 10/717,610	Claim 1 of <i>Do</i>
A laundry dry control method comprising the steps of: initiating a drying procedure;	A laundry drier control method comprising the steps off: initiating a drying procedure by actuating a plurality of drivers, including a heater driver to increase an internal temperature of a laundry drier;

measuring temperature;	determining a medium temperature time by measuring a time lapse from said drying procedure initiating step to a point where the internal temperature reaches a medium temperature between a drying initiating temperature and a maximum drying temperature;
calculating a temperature variation rate;	
calculating a drying time based on the temperature variation rate;	setting a drying time based on the determined medium temperature time; and
performing the drying procedure of the calculated drying time;	performing the drying procedure for the set drying time.
calculating a plurality of temperature variation rates; and determining whether there is a substantial increase in the temperature variation rate as a function of the plurality of temperature variation rates.	

The Examiner alleges that the claims 1-11 of *Do* render claims 1-3, 6-8 and 15 obvious because “although the conflicting claims are not identical, there are not patentably distinct from each other because the present claims reciting “calculating a temperature variation rate” is a

broader recitation, or at least structurally and functionally equivalent, to the patented step “determining a medium temperature time by measuring a time lapse from said drying procedure, initiating step to a point where the internal temperature reaches a medium temperature between a drying initiation temperature and a maximum drying temperature, setting a drying time based on the determined medium temperature time and performing the drying procedure for the set drying time.” *See page 8 of the Answer.* This allegation is simply preposterous.

In an attempt to support the rejection, the Examiner alleges that the claim limitation “determining a medium temperature,” recited in claim 1 of *Do* corresponds to the limitation of “measuring temperature,” as recited in the currently pending claims. *See page 12, lines 1-2 of the Answer.* Clearly, the Examiner has blatantly ignored the actual limitation recited in claim 1 of *Do*. As shown above, the limitation recited claim 1 of *Do* is “determining a medium temperature **time**” not “determining a medium temperature,” as suggested by the Examiner. Claim 1 of *Do* must be considered in its entirety, as required by *M.P.E.P. 2141.02*. The Examiner cannot ignore a word in the limitation simply to support his allegation.

Moreover, the Examiner alleges that the claimed limitation of “calculating a temperature variation rate,” in claim 1 of the currently pending claims, is an obvious variation to the patented “determining a medium temperature time by measuring a time lapse from said drying procedure, initiating step to a point where the internal temperature reaches a medium temperature between a drying initiation temperature and a maximum drying temperature, setting a drying time based on the determined medium temperature time and performing the drying procedure for the set drying time,” because “the patented determining time, initiating point of reaching a temperature, and setting a drying time based on medium temperature steps are all necessary to calculate the rate of temperature variation by measuring temperature and time and then using those measurements to

meet the claimed [limitation].” *See page 12, lines 3-13 of the Answer.* This analysis clearly shows that the Examiner has failed to properly ascertain the differences between claims 1-3, 6-8 and 15 of the currently pending claims and claims 1-11 of *Do* and resolving the level of ordinary skill in the art, as required by *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966).

The Examiner admits that claims 1-11 of *Do* and currently pending claims 1-3, 6-8 and 15 are not identical. *See page 8, line 1 of the Answer.* Thus, in order for *Do* to teach or suggest all of the features of the currently pending claims, the Examiner suggests that the claim features of *Do* could be modified in order to obviate the claimed invention. Specifically, the Examiner alleges that the measurements of time and temperature as claimed by *Do* could be used to calculate a “temperature variation rate,” as recited in claim 1. This allegation is completely unfounded.

Claim 1 of *Do* recites “determining a medium temperature time by measuring a time lapse from said drying procedure initiating step to a point where the internal temperature reaches a medium temperature between a drying initiation temperature and a maximum drying temperature.” As stated above, *Do* fails to actually claim “measuring temperature,” as recited in claim 1 of the instant application. Moreover, a plurality of temperature measurements must be used in the calculation of the claimed temperature variation rate. Nothing in the claims of *Do* suggest that a temperature measurement is used in a capacity other than in a passive comparison to a predetermined value. In other words, even if *Do* could be considered to claim sensing a temperature, there is no indication that this sensed temperature is actively stored for use in any calculation, let alone a “temperature variation rate.”

Clearly, the Examiner employed improper hindsight reasoning by relying solely upon knowledge gleamed for the Applicant's disclosure for the motivation to use such measurements to calculate the claimed "temperature variation rate." Just because the "temperature variation rate" uses time and temperature variables, without the knowledge presented in the Application's disclosure, one of ordinary skill would never consider to use these variables to calculate a "temperature variation rate." Accordingly, one of ordinary skill in the art **at the time the invention was made** would not have modified *Do* as suggested.

Moreover, even if, assuming *arguendo*, one skilled in the art would have contemplated employing the measurements of *Do*, as suggested, the resulting modification fails to teach each and every feature recited in claim 1. Claim 1 of the instant application recites the step of "calculating a drying time based on the [calculated] temperature variation rate." The Examiner alleges that the claim limitation "setting a drying time" recited by *Do* is considered to anticipate this feature. The Examiner's interpretation of this feature is simply wrong.

Claim 1 of *Do* recites that "setting a drying time" is based on "the determined medium temperature time." This is completely different from what claim 1 of the instant application recites. Specifically, the act of "setting a drying time" does not require any calculation. Moreover, the drying time of *Do* is set based on the "determined medium temperature time." A measurement of time cannot possibly be considered equivalent to a "calculated temperature variation rate," as required by the claim.

In addition, since *Do* fails to claim "calculating a temperature variation rate," clearly *Do* also fails to teach "calculating a plurality of temperature variation rates," and "determining

whether there is a substantial increase in the temperature variation rate as a function of the plurality of temperature variation rates.”

For at least the aforementioned reasons, claim 1 is clearly non-obvious over the claims of *Do*. Likewise, claims 2, 3, 6-8 and 15, which depend from claim 1, are also non-obvious for at least the same reasons. Therefore, the rejection of claims 12, 3, 6-8 and 15 of the instant application under the judicially created doctrine of obviousness-type double patenting over claims 1-11 of *Do* is improper. Accordingly, the Appellant respectfully requests the Board set aside the Examiner’s finding of obviousness-type double patenting.

B. Independent claim 1 and claims 2, 3 and 6-8 which depend therefrom, are NOT rendered obvious over *Krüger* in view of *Wentzlaff* under 35 U.S.C. §103(a).

In order to reject claims as being obvious under 35 U.S.C. §103(a), the Examiner must perform an analysis based on the factual inquiries required by *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966). Specifically, the Examiner must determine the scope and content of the prior art, ascertain and identify the differences between the prior art and the claims in issue, and resolve the level of ordinary skill in the art. The Examiner must then use the information acquired during this analysis to establish a *prima facie* case of obviousness. To properly establish a *prima facie* case of obviousness, the following criteria must be met. First, there must be some suggestion or motivation to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference as modified or the references when combined, must teach or suggest all of the claim limitations. *MPEP 706.02(j)*.

1. Independent claim 1 is NOT obvious over Krüger in view of Wentzlaff.

Claim 1 recites a laundry control method, which includes “measuring temperature; calculating a temperature variation rate...calculating a plurality of temperature variation rates; and determining whether there is a substantial increase in the temperature variation rate as a function of the plurality of temperature variation rates.”

In rejecting claim 1, the Examiner alleges that *Krüger* teaches “measuring a temperature” and “calculating a temperature variation rate.” *See page 5, lines 5-12 of the Answer.* *Wentzlaff* allegedly discloses “calculating a plurality of temperature variation rates and determining whether there is a substantial increase in the temperature variation rate as a function of the plurality of temperature variation rates.” *See page 5, lines 11-14 of the Answer.*

Clearly, when the obvious analysis was performed based on the factual inquiry required by *Grahm v. John Deere Co.*, the Examiner improperly ascertained that *Wentzlaff* actually taught calculating a temperature variation rate. *Wentzlaff* fails to teach or suggest any calculation of a rate, thus, contrary to the Examiner’s allegation, *Wentzlaff* cannot possibly teach calculating a single temperature variation rate, let alone calculating a “plurality of temperature variation rates.” The Examiner alleges that since *Wentzlaff* teaches taking time and temperature measurements, it necessarily follows that *Wentzlaff* teaches “calculating a temperature variation rate.” However, the Examiner ignores that *Wentzlaff* fails to correlate these two measurements in any way. A teaching of variables alone is not enough to teach or suggest “calculating a temperature variation rate,” as suggested by the Examiner. Thus, the Examiner has improperly relied only upon the Appellant’s disclosure for the teaching of using these variables to calculate a rate. Absent the Appellant’s disclosure, one of ordinary skill in the art that the time the

invention would not have made the suggested modification based on the teachings of *Krüger* in view of *Wentzlaff*.

For at least the aforementioned reasons, claim 1 is patentably distinguishable over *Krüger* in view of *Wentzlaff*. Likewise, claims 2, 3 and 6-8 which depend from claim 1 are also patentably distinguishable for at least the same reasons. Therefore, the rejection of claims 1-3 and 6-8 is improper under 35 U.S.C. § 103(a). Accordingly, the Appellant respectfully requests that the Board set aside the Examiner's finding that the combination of *Krüger* in view of *Wentzlaff* renders claims 1-3 and 6-8 obvious.

C. Dependent claim 15 is NOT rendered obvious over *Krüger* in view of *Wentzlaff* in further view of *Hyldon* under 35 U.S.C. §103(a).

Claim 15 further recites "determining whether the change in a temperature variation rate exceeds 1°C per minute."

In rejecting claim 15, the Examiner alleges that "*Krüger* in view of *Wentzlaff* obviates the claimed invention...except for the claimed one degree Celsius rate excess." See *Hyldon* allegedly discloses a "one degree Celsius rate excess." page 7, lines 11-13 and 16-17 of the *Answer*.

The Examiner has failed to establish a proper *prima facie* case of obviousness based on a proper analysis between the claimed invention and the cited prior art as required by *Graham v. John Deere Co.* Had the Examiner actually performed this analysis, it would be clear that the combination of *Krüger* in view of *Wentzlaff* in further view of *Hyldon* fails to teach or suggest the feature of claim 15 as identified above.

The Examiner admits that neither *Krüger* nor *Wentzlaff* teach or suggest the aforementioned limitation. Further, *Hyldon* teaches instant corn grits. Clearly, *Hyldon* fails to teach or suggest “determining whether the change in temperature variation rate [calculated in a laundry dryer control method] exceeds 1°C per minute.” Thus, none of the references, singularly or in combination, teach or suggest each and every feature recited in claim 15.

Therefore, for at least the aforementioned reasons, claim 15 is patentably distinguishable over *Krüger* in view of *Wentzlaff* in further view of *Hyldon* and thus the rejection under 35 U.S.C. § 103(a) is improper. Accordingly, the Appellant respectfully requests that the Board set aside the Examiner’s finding that the combination of *Krüger* in view of *Wentzlaff* in further view of *Hyldon* renders claim 15 obvious.

VIII. CONCLUSION

For reasons as discussed above, claims 1-3, 6-8 and 15 are improperly rejected under the judicially created doctrine of obviousness-type double patenting over claims 1-11 of *Do*. Claims 1-3 and 6-8 are improperly rejected under 35 U.S.C. § 103(a) as being obvious over *Krüger* in view of *Wentzlaff* and claim 15 is improperly rejected under 35 U.S.C. § 103(a) as being obvious over *Krüger* in view of *Wentzlaff* in further view of *Hyldon*.

This Honorable Board is respectfully requested to reverse the rejections set forth in the final Office Action and direct the Examiner to pass this application to issue.

If these papers are not considered timely filed by the Patent and Trademark Office, then a petition is hereby made under 37 C.F.R. § 1.136, and any additional fees required under 37 C.F.R. § 1.136 for any necessary extension of time, or any other fees required to complete the filing of this response, may be charged to Deposit Account No. 50-0911. Please credit any overpayment to deposit Account No. 50-0911. A duplicate copy of this sheet is enclosed.

Dated: July 25, 2007

Respectfully submitted,

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Attachments

CLAIMS APPENDIX

Claims Involved in the Appeal of Application Serial No. 10/717,610

1. (Previously Presented) A laundry dryer control method comprising the steps of:
 - initiating a drying procedure;
 - measuring temperature;
 - calculating a temperature variation rate;
 - calculating a drying time based on the temperature variation rate;
 - performing the drying procedure for the calculated drying time;
 - calculating a plurality of temperature variation rates; and
 - determining whether there is a substantial increase in the temperature variation rate as a function of the plurality of temperature variation rates.
2. (Previously Presented) The method as claimed in claim 5, wherein said calculating step is repeated if a substantial increase in the temperature variation rates is detected.
3. (Previously Presented) The method as claimed in claim 1, further comprising:
 - calculating changes in temperature variation rate; and
 - determining whether a change in temperature variation rate is substantial.
6. (Previously Presented) The method as claimed in claim 5, wherein the substantial increase is determined by comparing changes in the plurality of temperature variation rates.

7. (Previously Presented) The method as claimed in claim 1, wherein said drying time calculating step comprises:

calculating a remaining drying time, wherein drying for the remaining drying time completes the drying procedure.

8. (Previously Presented) The method as claimed in claim 7, wherein the remaining drying time is based on a known drying pattern, the known drying pattern varying according to an amount and type of laundry.

15. (Previously Presented) The method as claimed in claim 6, wherein determining whether a change in the temperature variation rates is substantial comprises:

determining whether the change in a temperature variation rate exceeds 1°C per minute.

EVIDENCE APPENDIX

None.

RELATED PROCEEDINGS APPENDIX

None.